INPUT SET: S34420.raw

> **This Raw Listing contains the General Information Section and up to the first 5 pages.**

```
 1                              SEQUENCE LISTING
 2
 3     (1)     General Information:
 4     (i) APPLICANT: Robert G. Ulrich,
 5     Mark A. Olson
 6     Sina Bavari
 7
 8     (ii) TITLE OF INVENTION: Bacterial Superantigen
 9     Vaccines
10
11     (iii) NUMBER OF SEQUENCES:25
12
13     (iv) CORRESPONDENCE ADDRESS:
14     (A) ADDRESSEE:   Charles H. Harris
15     (B) STREET: US Army MRMC -504 Scott Street MCMR-JA (Charles H. Harris-Patent Atty)
16     (C) CITY: FORT DETRICK
17     (D) STATE: MARYLAND
18     (E) COUNTRY: USA
19     (F) ZIP: 21702-5012
20
21     (v) COMPUTER READABLE FORM:
22     (A) MEDIUM TYPE: Floppy disk
23     (B) COMPUTER: Apple Macintosh
24     (C) OPERATING SYSTEM: Macintosh 7.5
25     (D) SOFTWARE: Microsoft Word 6.0
26
27     (vi) CURRENT APPLICATION DATA:
28     (A) APPLICATION NUMBER: 08/882,431
29     (B) FILING DATE: June 25, 1997
30     (C) CLASSIFICATION:
31
32     (vii) PRIOR APPLICATION DATA:
33     (A) APPLICATION NUMBER:
34     (B) FILING DATE:
35
36     (viii) ATTORNEY/AGENT INFORMATION:
37     (A) NAME: Charles H. Harris
38     (B) REGISTRATION NUMBER: 34,616
39     (C) REFERENCE/DOCKET NUMBER:
40
41     (ix) TELECOMMUNICATION INFORMATION
42     (A) TELEPHONE: (301) 619-2065
43     (B) TELEFAX:   (301) 619-7714
44
45
46     (2) INFORMATION FOR SEQ ID NO:1:
```

RAW SEQUENCE LISTING
PATENT APPLICATION   US/08/882,431B

INPUT SET: S34420.raw

```
47   (i)  SEQUENCE CHARACTERISTICS:
48   (A)  LENGTH: 830
49   (B)  TYPE: Nucleic Acid
50   (C)  STRANDEDNESS: Unknown
51   (D)  TOPOLOGY: Unknown
52
53   (ii)  MOLECULE TYPE: DNA
54
55   (xi)  SEQUENCE DESCRIPTION: SEQ ID NO:1:
56
57   atgaaaaaaa cagcatttac attactttta ttcattgccc      40
58
59   taacgttgac aacaagtcca cttgtaaatg gtagcgagaa      80
60
61   aagcgaagaa ataaatgaaa aagatttgcg aaaaaagtct      120
62
63   gaattgcagg gaacagcttt aggcaatctt aaacaaatct      160
64
65   attattacaa tgaaaaagct aaaactgaaa ataaagagag      200
66
67   tcacgatcaa tttcgacagc atactatatt gtttaaaggc      240
68
69   tttttttacag atcattcgtg gtataacgat ttattagtac      280
70
71   gttttgattc aaaggatatt gttgataaat ataaagggaa      320
72
73   aaaagtagac ttgtatggtg cttatgctgg ttatcaatgt      360
74
75   gcgggtggta caccaaacaa aacagcttgt atgtatggtg      400
76
77   gtgtaacgtt acatgataat aatcgattga ccgaagagaa      440
78
79   aaaagtgccg atcaatttat ggctagacgg taaacaaaat      480
80
81   acagtacctt tggaaacggt taaaacgaat aagaaaaatg      520
82
83   taactgttca ggagttggat cttcaagcaa gacgttattt      560
84
85   acaggaaaaa tataatttat ataactctga tgtttttgat      600
86
87   gggaaggttc agaggggatt aatcgtgttt catacttcta      640
88
89   cagaaccttc ggttaattac gatttatttg gtgctcaagg      680
90
91   acagtattca aatacactat taagaatata tagagataat      720
92
93   aaaacgatta actctgaaaa catgcatatt gatatatatt      760
94
95   tatatacaag ttaaACATGG TAGTTTTGAC CAACGTAATG      800
96
97   TTCAGATTAT TATGAACCGA GAATAATCTA                 830
98
99
```

RAW SEQUENCE LISTING
PATENT APPLICATION   US/08/882,431B

INPUT SET: S34420.raw

```
100   (2)  INFORMATION FOR SEQ ID NO:2:
101   (i)  SEQUENCE CHARACTERISTICS:
102   (A)  LENGTH: 257
103   (B)  TYPE: Amino Acid
104   (C)  STRANDEDNESS: Unknown
105   (D)  TOPOLOGY: Unknown
106   (ii) MOLECULE TYPE: Peptide
107   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:
108
109   Met Lys Lys Thr Ala Phe Thr Leu Leu Leu
110   1               5                   10
111
112   Phe Ile Ala Leu Thr Leu Thr Thr Ser Pro
113               15                      20
114
115   Leu Val Asn Gly Ser Glu Lys Ser Glu Glu
116               25                      30
117
118   Ile Asn Glu Lys Asp Leu Arg Lys Lys Ser
119               35                      40
120
121   Glu Leu Gln Gly Thr Ala Leu Gly Asn Leu
122               45                      50
123
124   Lys Gln Ile Tyr Tyr Tyr Asn Glu Lys Ala
125               55                      60
126
127   Lys Thr Glu Asn Lys Glu Ser His Asp Gln
128               65                      70
129
130   Phe Arg Gln His Thr Ile Leu Phe Lys Gly
131               75                      80
132
133   Phe Phe Thr Asp His Ser Trp Tyr Asn Asp
134               85                      90
135
136   Leu Leu Val Arg Phe Asp Ser Lys Asp Ile
137               95                      100
138
139   Val Asp Lys Tyr Lys Gly Lys Lys Val Asp
140               105                     110
141
142   Leu Tyr Gly Ala Tyr Ala Gly Tyr Gln Cys
143               115                     120
144
145   Ala Gly Gly Thr Pro Asn Lys Thr Ala Cys
146               125                     130
147
148   Met Tyr Gly Gly Val Thr Leu His Asp Asn
149               135                     140
150
151   Asn Arg Leu Thr Glu Glu Lys Lys Val Pro
152               145                     150
```

```
153
154    Ile Asn Leu Trp Leu Asp Gly Lys Gln Asn
155                    155                 160
156
157    Thr Val Pro Leu Glu Thr Val Lys Thr Asn
158                    165                 170
159
160    Lys Lys Asn Val Thr Val Gln Glu Leu Asp
161                    175                 180
162
163    Leu Gln Ala Arg Arg Tyr Leu Gln Glu Lys
164                    185                 190
165
166    Tyr Asn Leu Tyr Asn Ser Asp Val Phe Asp
167                    195                 200
168
169    Gly Lys Val Gln Arg Gly Leu Ile Val Phe
170                    205                 210
171
172    His Thr Ser Thr Glu Pro Ser Val Asn Tyr
173                    215                 220
174
175    Asp Leu Phe Gly Ala Gln Gly Gln Tyr Ser
176                    225                 230
177
178    Asn Thr Leu leu Arg Ile Tyr Arg Asp Asn
179                    235                 240
180
181    Lys Thr Ile Asn Ser Glu Asn Met His Ile
182                    245                 250
183
184    Asp Ile Tyr Leu Tyr Thr Ser
185                    255
186
187
188    (2)  INFORMATION FOR SEQ ID NO:3:
189    (i) SEQUENCE CHARACTERISTICS:
190    (A) LENGTH: 757
191    (B) TYPE: Nucleic Acid
192    (C) STRANDEDNESS: Unknown
193    (D) TOPOLOGY: Unknown
194    (ii) MOLECULE TYPE: DNA
195
196    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:
197
198    atgagaaaag cgaagaaata aatgaaaaag atttgcgaaa      40
199
200    aaagtctgaa ttgcagggaa cagctttagg caatcttaaa      80
201
202    Caaatctatt attacaatga aaaagctaaa actgaaaata     120
203
204    aagagagtca cgatcaattt cgacagcata ctatattgtt     160
205
```

INPUT SET: S34420.raw

```
206   taaaggcttt tttacagatc attcgtggta taacgattta   200
207
208   ttagtacgtt ttgattcaaa ggatattgtt gataaatata   240
209
210   aagggaaaaa agtagacttg tatggtgctt atgctggtta   280
211
212   tcaatgtgcg ggtggtacac caaacaaaac agcttgtatg   320
213
214   tatggtggtg taacgttaca tgataataat cgattgaccg   360
215
216   aagagaaaaa agtgccgatc aatttatggc tagacggtaa   400
217
218   acaaaataca gtacctttgg aaacggttaa aacgaataag   440
219
220   aaaaatgtaa ctgttcagga gttggatctt caagcaagac   480
221
222   gttatttaca ggaaaaatat aatttatata actctgatgt   520
223
224   ttttgatggg aaggttcaga ggggattaat cgtgtttcat   560
225
226   acttctacag aaccttcggt taattacgat ttatttggtg   600
227
228   ctcaaggaca gtattcaaat acactattaa gaatatatag   640
229
230   agataataaa acgattaact ctgaaaacat gcatattgat   680
231
232   atatatttat atacaagtta aACATGGTAG TTTTGACCAA   720
233
234   CGTAATGTTC AGATTATTAT GAACCGAGAA TAATCTA      757
235
236
237   (2)  INFORMATION FOR SEQ ID NO:4:
238   (i)  SEQUENCE CHARACTERISTICS:
239   (A)  LENGTH:233
240   (B)  TYPE: Amino Acid
241   (C)  STRANDEDNESS: Unknown
242   (D)  TOPOLOGY: Unknown
243   (ii) MOLECULE TYPE: Peptide
244   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:
245
246   Met Glu Lys Ser Glu Glu Ile Asn Glu Lys
247                   5                    10
248
249   Asp Leu Arg Lys Lys Ser Glu Leu Gln Gly
250                  15                    20
251
252   Thr Ala Leu Gly Asn Leu Lys Gln Ile Tyr
253                  25                    30
254
255   Tyr Tyr Asn Glu Lys Ala Lys Thr Glu Asn
256                  35                    40
257
258   Lys Glu Ser His Asp Gln Phe Arg Gln His
```

INPUT SET: S34420.raw

***** PREVIOUSLY ERRORED SEQUENCES - EDITED *****

```
1540   (2)  INFORMATION FOR SEQ ID NO:24:
1541   (i)  SEQUENCE CHARACTERISTICS:
1542   (A)  LENGTH: 79
1543   (B)  TYPE: Amino Acid
1544   (C)  STRANDEDNESS: Unknown
1545   (D)  TOPOLOGY: Unknown
1546   (ii) MOLECULE TYPE: Peptide
1547   (xi) SEQUENCE DESCRIPTION:SEQ ID NO:24:
1548   Ser Val Asp Gln Leu Leu Ser His Asp Leu
1549                     5                   10
1550   Ile Tyr Asn Val Ser Gly Pro Asn Tyr Asp
1551                     15                  20
1552   Lys Leu Lys Thr Glu Leu Lys Asn Gln Glu
1553                     25                  30
1554   Met Ala Thr Leu Phe Lys Asp Lys Asn Val
1555                     35                  40
1556   Asp Ile Tyr Gly Val Glu Tyr Tyr His Leu
1557                     45                  50
1558   Cys Tyr Leu Cys Glu Asn Ala Glu Arg Ser
1559                     55                  60
1560   Ala Cys Ile Tyr Gly Gly Val Thr Asn His
1561                     65                  70
1562   Glu Gly Asn His Leu Glu Ile Pro Lys
1563                     75
1564
```

```
1565   (2)  INFORMATION FOR SEQ ID NO:25:
1566   (i)  SEQUENCE CHARACTERISTICS:
1567   (A)  LENGTH: 73
1568   (B)  TYPE: Amino Acid
1569   (C)  STRANDEDNESS: Unknown
1570   (D)  TOPOLOGY: Unknown
1571   (ii) MOLECULE TYPE: Peptide
1572   (xi) SEQUENCE DESCRIPTION:SEQ ID NO:25:
1573   Val Leu Asp Asn Ser Leu Gly Ser Met Arg
1574                     5                   10
1575   Ile Lys Asn Thr Asp Gly Ser Ile Ser Leu
1576                     15                  20
1577   Ile Ile Phe Pro Ser Pro Tyr Tyr Ser Pro
1578                     25                  30
1579   Ala Phe Thr Lys Gly Glu Lys Val Asp Leu
1580                     35                  40
1581   Asn Thr Lys Arg Thr Lys Lys Ser Gln His
1582                     45                  50
1583   Thr Ser Glu Gly Thr Tyr Ile His Phe Gln
1584                     55                  60
1585   Ile Ser Gly Val Thr Asn Thr Glu Lys Leu
```

RAW SEQUENCE LISTING
PATENT APPLICATION   *US/08/882,431B*

```
1586                    65                    70
1587    Pro  Thr  Pro
1588
```

SEQUENCE VERIFICATION REPORT
PATENT APPLICATION   *US/08/882,431B*

INPUT SET: S34420.raw

Line	Error	Original Text

RAW SEQUENCE LISTING
PATENT APPLICATION *US/08/882,431B*

INPUT SET: S34420.raw

> This Raw Listing contains the General Information Section and those Sequences containing ERRORS.

```
 1                                   SEQUENCE LISTING
 2
 3    (1)     General Information:
 4    (i) APPLICANT: Robert G. Ulrich,              Does Not Comply
 5    Mark A. Olson                             Corrected Diskette Needed
 6    Sina Bavari
 7
 8    (ii) TITLE OF INVENTION: Bacterial Superantigen
 9    Vaccines
10
11    (iii) NUMBER OF SEQUENCES:25
12
13    (iv) CORRESPONDENCE ADDRESS:
14    (A) ADDRESSEE:  Charles H. Harris
15    (B) STREET: US Army MRMC -504 Scott Street MCMR-JA (Charles H. Harris-Patent Atty)
16    (C) CITY: FORT DETRICK
17    (D) STATE: MARYLAND
18    (E) COUNTRY: USA
19    (F) ZIP: 21702-5012
20
21    (v) COMPUTER READABLE FORM:
22    (A) MEDIUM TYPE: Floppy disk
23    (B) COMPUTER: Apple Macintosh
24    (C) OPERATING SYSTEM: Macintosh 7.5
25    (D) SOFTWARE: Microsoft Word 6.0
26
27    (vi) CURRENT APPLICATION DATA:
28    (A) APPLICATION NUMBER: 08/882,431
29    (B) FILING DATE: June 25, 1997
30    (C) CLASSIFICATION:
31
32    (vii) PRIOR APPLICATION DATA:
33    (A) APPLICATION NUMBER:
34    (B) FILING DATE:
35
36    (viii) ATTORNEY/AGENT INFORMATION:
37    (A) NAME: Charles H. Harris
38    (B) REGISTRATION NUMBER: 34,616
39    (C) REFERENCE/DOCKET NUMBER:
40
41    (ix) TELECOMMUNICATION INFORMATION
42    (A) TELEPHONE: (301) 619-2065
43    (B) TELEFAX:  (301) 619-7714
44
45
```

ERRORED SEQUENCES FOLLOW:

```
        1353    (18) INFORMATION FOR SEQUENCE ID NO:17:
        1354    (i) SEQUENCE CHARACTERISTICS:
        1355    (A) LENGTH: 82
        1356    (B) TYPE: Amino Acid
        1357    (C) STRANDEDNESS: Unknown
        1358    (D) TOPOLOGY: Unknown
        1359    (ii) Molecule type: Peptide
        1360    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17
        1361    Ser His Asp Gln Phe Leu Gln His Thr Ile
        1362                      5                   10
        1363    Leu Phe Lys Gly Phe Phe Thr Asp His Ser
        1364                      15                  20
-->     1365    Trp Tyr Asn Asp Leu Leu Val Asp Phe Asp
-->     1366                      25                  30
-->     1367    Ser Lys Asp Ile Val Asp Lys Tyr Lys Gly
-->     1368                      35                  40
-->     1369    Lys Lys Val Asp Leu Tyr Gly Ala Tyr Tyr
-->     1370                      45                  50
-->     1371    Gly Tyr Gln Cys Ala Gly Gly Thr Pro Asn
-->     1372                      55                  60
-->     1373    Lys Thr Ala Cys Met Tyr Gly Gly Val Thr
-->     1374                      65                  70
-->     1375    Leu His Asp Asn Asn Arg Leu Thr Glu Glu
-->     1376                      75                  80
-->     1377    Lys Lys
        1378
```

```
        1379    (19) INFORMATION FOR SEQUENCE ID NO:18:
        1380    (i) SEQUENCE CHARACTERISTICS:
        1381    (A) LENGTH: 82
        1382    (B) TYPE: Amino Acid
        1383    (C) STRANDEDNESS: Unknown
        1384    (D) TOPOLOGY: Unknown
        1385    (ii) Molecule type: Peptide
        1386    Thr Gly Asp Gln Phe Leu Glu Asn Thr Leu
        1387                      5                   10
        1388    Leu Tyr Lys Lys Phe Phe Thr Asp Leu Ile
        1389                      15                  20
-->     1390    Asn Phe Glu Asp Leu Leu Ile Asn Phe Asn
-->     1391                      25                  30
-->     1392    Ser Lys Glu Met Ala Gln His Phe Lys Ser
-->     1393                      35                  40
-->     1394    Lys Asn Val Asp Val Tyr Pro Ile Arg Tyr
-->     1395                      45                  50
-->     1396    Ser Ile Asn Cys Tyr Gly Gly Glu Ile Asp
-->     1397                      55                  60
-->     1398    Arg Thr Ala Cys Thr Tyr Gly Gly Val Thr
```

same error

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/882,431B

INPUT SET: S34420.raw

```
 -->  1399                     65                    70
 -->  1400   Pro His Glu Gly Asn Lys Leu Lys Glu Arg
 -->  1401                     75                    80
 -->  1402   Lys Lys
       1403
       1404
```

```
       1405   (20) INFORMATION FOR SEQUENCE ID NO:19:
       1406   (i) SEQUENCE CHARACTERISTICS:
       1407   (A) LENGTH: 82
       1408   (B) TYPE: Amino Acid
       1409   (C) STRANDEDNESS: Unknown
       1410   (D) TOPOLOGY: Unknown
       1411   (ii) Molecule type: Peptide
       1412   Ser Asp Asp Gln Phe Leu Glu Asn Thr Leu
       1413                     5                    10
       1414   Leu Phe Lys Gly Phe Phe Thr Gly His Pro
       1415                     15                   20
 -->  1416   Trp Tyr Asn Asp Leu Leu Val Asp Leu Gly
 -->  1417                     25                   30
 -->  1418   Ser Lys Asp Ala Thr Asn Lys Tyr Lys Gly
 -->  1419                     35                   40
 -->  1420   Lys Lys Val Asp Leu Tyr Gly Ala Tyr Tyr
 -->  1421                     45                   50
 -->  1422   Gly Tyr Gln Cys Ala Gly Gly Thr Pro Asn
 -->  1423                     55                   60
 -->  1424   Lys Thr Ala Cys Met Tyr Gly Gly Val Thr
 -->  1425                     65                   70
 -->  1426   Leu His Asp Asn Asn Arg Leu Thr Glu Glu
 -->  1427                     75                   80
 -->  1428   Lys Lys
       1429
```

```
       1430   (21) INFORMATION FOR SEQUENCE ID NO:20:
       1431   (i) SEQUENCE CHARACTERISTICS:
       1432   (A) LENGTH: 89
       1433   (B) TYPE: Amino Acid
       1434   (C) STRANDEDNESS: Unknown
       1435   (D) TOPOLOGY: Unknown
       1436   (ii) Molecule type: Peptide
       1437   Ser Ile Asp Gln Phe Leu Tyr Phe Asp Leu
       1438                     5                    10
       1439   Ile Tyr Ser Ile Lys Asp Thr Lys Leu Gly
       1440                     15                   20
 -->  1441   Asn Tyr Asp Asn Val Arg Val Glu Phe Lys
 -->  1442                     25                   30
 -->  1443   Asn Lys Asp Leu Ala Asp Lys Tyr Lys Asp
 -->  1444                     35                   40
 -->  1445   Lys Tyr Val Asp Val Phe Gly Ala Asn Tyr
 -->  1446                     45                   50
 -->  1447   Tyr Gln Cys Tyr Phe Ser Lys Lys Thr Asn
 -->  1448                     55                   60
 -->  1449   Asp Ile Asn Ser His Gln Thr Asp Lys Arg
```

INPUT SET: S34420.raw

```
-->  1450                       65                    70
-->  1451    Lys Thr Cys Met Tyr Gly Gly Val Thr Glu
-->  1452                       75                    80
-->  1453    His Asn Gly Asn Gln Leu Asp Lys Tyr
-->  1454                       85
     1455
```

```
     1456    (22) INFORMATION FOR SEQUENCE ID NO:21:
     1457    (i) SEQUENCE CHARACTERISTICS:
     1458    (A) LENGTH: 89
     1459    (B) TYPE: Amino Acid
     1460    (C) STRANDEDNESS: Unknown
     1461    (D) TOPOLOGY: Unknown
     1462    (ii) Molecule type: Peptide
     1463
     1464    Ser Val Asp Lys Phe Leu Ala His Asp Leu
     1465                       5                     10
     1466    Ile Tyr Asn Ile Ser Asp Lys Lys Leu Lys
     1467                       15                    20
-->  1468    Asn Tyr Asp Lys Val Lys Thr Glu Leu Leu
-->  1469                       25                    30
-->  1470    Asn Glu Gly Leu Ala Lys Lys Tyr Lys Asp
-->  1471                       35                    40
-->  1472    Glu Val Val Asp Val Tyr Gly Ser Asn Tyr
-->  1473                       45                    50
-->  1474    Tyr Val Asn Cys Tyr Phe Ser Ser Lys Asp
-->  1475                       55                    60
-->  1476    Asn Val Gly Lys Val Thr Gly Gly Lys Thr
-->  1477                       65                    70
-->  1478    Cys Met Tyr Gly Gly Ile Thr Lys His Glu
-->  1479                       75                    80
-->  1480    Gly Asn His Phe Asp Asn Gly Asn Leu
-->  1481                       85
     1482
```

same ↓

```
     1483    (23) INFORMATION FOR SEQUENCE ID NO:22:
     1484    (i) SEQUENCE CHARACTERISTICS:
     1485    (A) LENGTH: 89
     1486    (B) TYPE: Amino Acid
     1487    (C) STRANDEDNESS: Unknown
     1488    (D) TOPOLOGY: Unknown
     1489    (ii) Molecule type: Peptide
     1490    Ser Val Asp Lys Phe Leu Ala His Asp Leu
     1491                       5                     10
     1492    Ile Tyr Asn Ile Ser Asp Lys Lys Leu Lys
     1493                       15                    20
-->  1494    Asn Tyr Asp Lys Val Lys Thr Glu Leu Leu
-->  1495                       25                    30
-->  1496    Asn Glu Asp Leu Ala Lys Lys Tyr Lys Asp
-->  1497                       35                    40
-->  1498    Glu Val Val Asp Val Tyr Gly Ser Asn Tyr
-->  1499                       45                    50
-->  1500    Tyr Val Asn Cys Tyr Phe Ser Ser Lys Asp
```

RAW SEQUENCE LISTING
PATENT APPLICATION *US/08/882,431B*

INPUT SET: S34420.raw

```
-->   1501                      55                    60
-->   1502   Asn Val Gly Lys Val Thr Gly Gly Lys Thr
-->   1503                      65                    70
-->   1504   Cys Met Tyr Gly Gly Ile Thr Lys His Glu
-->   1505                      75                    80
-->   1506   Gly Asn His Phe Asp Asn Gly Asn Leu
-->   1507                      85
      1508
```

```
      1509   (24) INFORMATION FOR SEQUENCE ID NO:23:
      1510   (i) SEQUENCE CHARACTERISTICS:
      1511   (A) LENGTH:89
      1512   (B) TYPE: Amino Acid
      1513   (C) STRANDEDNESS: Unknown
      1514   (D) TOPOLOGY: Unknown
      1515   (ii) Molecule type: Peptide
      1516   Ser Val Asp Lys Phe Leu Ala His Asp Leu
      1517                       5                    10
      1518   Ile Tyr Asn Ile Ser Asp Lys Lys Leu Lys
      1519                      15                    20
-->   1520   Asn Tyr Asp Lys Val Lys Thr Glu Leu Leu
-->   1521                      25                    30
-->   1522   Asn Glu Asp Leu Ala Lys Lys Tyr Lys Asp
-->   1523                      35                    40
-->   1524   Glu Val Val Asp Val Tyr Gly Ser Asn Tyr
-->   1525                      45                    50
-->   1526   Tyr Val Asn Cys Tyr Phe Ser Ser Lys Asp
-->   1527                      55                    60
-->   1528   Asn Val Gly Lys Val Thr Gly Gly Lys Thr
```

```
-->   1529                        65                      70
-->   1530   Cys Met Tyr Gly Gly Ile Thr Lys His Glu
-->   1531                        75                      80
-->   1532   Gly Asn His Phe Asp Asn Gly Asn Leu
-->   1533                        85
      1534
```

```
      1535   (25) INFORMATION FOR SEQUENCE ID NO:24:
      1536   (i) SEQUENCE CHARACTERISTICS:
      1537   (A) LENGTH: 79
      1538   (B) TYPE: Amino Acid
      1539   (C) STRANDEDNESS: Unknown
      1540   (D) TOPOLOGY: Unknown
      1541   (ii) Molecule type: Peptide
      1542   Ser Val Asp Gln Leu Leu Ser His Asp Leu
      1543                        5                       10
      1544   Ile Tyr Asn Val Ser Gly Pro Asn Tyr Asp
      1545                        15                      20
-->   1546   Lys Leu Lys Thr Glu Leu Lys Asn Gln Glu
-->   1547                        25                      30
-->   1548   Met Ala Thr Leu Phe Lys Asp Lys Asn Val
-->   1549                        35                      40
-->   1550   Asp Ile Tyr Gly Val Glu Tyr Tyr His Leu
-->   1551                        45                      50
```

RAW SEQUENCE LISTING
PATENT APPLICATION *US/08/882,431B*

```
-->   1552   Cys Tyr Leu Cys Glu Asn Ala Glu Arg Ser
-->   1553                   55                      60
-->   1554   Ala Cys Ile Tyr Gly Gly Val Thr Asn His
-->   1555                   65                      70
-->   1556   Glu Gly Asn His Leu Glu Ile Pro Lys
-->   1557                   75
      1558
```

```
      1559   (26) INFORMATION FOR SEQUENCE ID NO:25:
      1560   (i) SEQUENCE CHARACTERISTICS:
      1561   (A) LENGTH: 73
      1562   (B) TYPE: Amino Acid
      1563   (C) STRANDEDNESS: Unknown
      1564   (D) TOPOLOGY: Unknown
      1565   (ii) Molecule type: Peptide
      1566   Val Leu Asp Asn Ser Leu Gly Ser Met Arg
      1567                   5                      10
      1568   Ile Lys Asn Thr Asp Gly Ser Ile Ser Leu
      1569                   15                     20
-->   1570   Ile Ile Phe Pro Ser Pro Tyr Tyr Ser Pro
-->   1571                   25                     30
-->   1572   Ala Phe Thr Lys Gly Glu Lys Val Asp Leu
-->   1573                   35                     40
-->   1574   Asn Thr Lys Arg Thr Lys Lys Ser Gln His
-->   1575                   45                     50
-->   1576   Thr Ser Glu Gly Thr Tyr Ile His Phe Gln
-->   1577                   55                     60
-->   1578   Ile Ser Gly Val Thr Asn Thr Glu Lys Leu
-->   1579                   65                     70
-->   1580   Pro Thr Pro
      1581
```

same

SEQUENCE VERIFICATION REPORT
PATENT APPLICATION   *US/08/882,431B*

INPUT SET: S34420.raw

Line	Error	Original Text
1365	Response Exceeds Line Limitations	Trp Tyr Asn Asp Leu Leu Val Asp Phe Asp
1366	Response Exceeds Line Limitations	25 30
1367	Response Exceeds Line Limitations	Ser Lys Asp Ile Val Asp Lys Tyr Lys Gly
1368	Response Exceeds Line Limitations	35 40
1369	Response Exceeds Line Limitations	Lys Lys Val Asp Leu Tyr Gly Ala Tyr Tyr
1370	Response Exceeds Line Limitations	45 50
1371	Response Exceeds Line Limitations	Gly Tyr Gln Cys Ala Gly Gly Thr Pro Asn
1372	Response Exceeds Line Limitations	55 60
1373	Response Exceeds Line Limitations	Lys Thr Ala Cys Met Tyr Gly Gly Val Thr
1374	Response Exceeds Line Limitations	65 70
1375	Response Exceeds Line Limitations	Leu His Asp Asn Asn Arg Leu Thr Glu Glu
1376	Response Exceeds Line Limitations	75 80
1377	Response Exceeds Line Limitations	Lys Lys
1390	Response Exceeds Line Limitations	Asn Phe Glu Asp Leu Leu Ile Asn Phe Asn
1391	Response Exceeds Line Limitations	25 30
1392	Response Exceeds Line Limitations	Ser Lys Glu Met Ala Gln His Phe Lys Ser
1393	Response Exceeds Line Limitations	35 40
1394	Response Exceeds Line Limitations	Lys Asn Val Asp Val Tyr Pro Ile Arg Tyr
1395	Response Exceeds Line Limitations	45 50
1396	Response Exceeds Line Limitations	Ser Ile Asn Cys Tyr Gly Gly Glu Ile Asp
1397	Response Exceeds Line Limitations	55 60
1398	Response Exceeds Line Limitations	Arg Thr Ala Cys Thr Tyr Gly Gly Val Thr
1399	Response Exceeds Line Limitations	65 70
1400	Response Exceeds Line Limitations	Pro His Glu Gly Asn Lys Leu Lys Glu Arg
1401	Response Exceeds Line Limitations	75 80
1402	Response Exceeds Line Limitations	Lys Lys
1416	Response Exceeds Line Limitations	Trp Tyr Asn Asp Leu Leu Val Asp Leu Gly
1417	Response Exceeds Line Limitations	25 30
1418	Response Exceeds Line Limitations	Ser Lys Asp Ala Thr Asn Lys Tyr Lys Gly
1419	Response Exceeds Line Limitations	35 40
1420	Response Exceeds Line Limitations	Lys Lys Val Asp Leu Tyr Gly Ala Tyr Tyr
1421	Response Exceeds Line Limitations	45 50
1422	Response Exceeds Line Limitations	Gly Tyr Gln Cys Ala Gly Gly Thr Pro Asn
1423	Response Exceeds Line Limitations	55 60
1424	Response Exceeds Line Limitations	Lys Thr Ala Cys Met Tyr Gly Gly Val Thr
1425	Response Exceeds Line Limitations	65 70
1426	Response Exceeds Line Limitations	Leu His Asp Asn Asn Arg Leu Thr Glu Glu
1427	Response Exceeds Line Limitations	75 80
1428	Response Exceeds Line Limitations	Lys Lys
1441	Response Exceeds Line Limitations	Asn Tyr Asp Asn Val Arg Val Glu Phe Lys
1442	Response Exceeds Line Limitations	25 30
1443	Response Exceeds Line Limitations	Asn Lys Asp Leu Ala Asp Lys Tyr Lys Asp
1444	Response Exceeds Line Limitations	35 40
1445	Response Exceeds Line Limitations	Lys Tyr Val Asp Val Phe Gly Ala Asn Tyr
1446	Response Exceeds Line Limitations	45 50
1447	Response Exceeds Line Limitations	Tyr Gln Cys Tyr Phe Ser Lys Lys Thr Asn
1448	Response Exceeds Line Limitations	55 60
1449	Response Exceeds Line Limitations	Asp Ile Asn Ser His Gln Thr Asp Lys Arg

SEQUENCE VERIFICATION REPORT
PATENT APPLICATION *US/08/882,431B*

INPUT SET: S34420.raw

Line	Error	Original Text
1450	Response Exceeds Line Limitations	65 70
1451	Response Exceeds Line Limitations	Lys Thr Cys Met Tyr Gly Gly Val Thr Glu
1452	Response Exceeds Line Limitations	75 80
1453	Response Exceeds Line Limitations	His Asn Gly Asn Gln Leu Asp Lys Tyr
1454	Response Exceeds Line Limitations	85
1468	Response Exceeds Line Limitations	Asn Tyr Asp Lys Val Lys Thr Glu Leu Leu
1469	Response Exceeds Line Limitations	25 30
1470	Response Exceeds Line Limitations	Asn Glu Gly Leu Ala Lys Lys Tyr Lys Asp
1471	Response Exceeds Line Limitations	35 40
1472	Response Exceeds Line Limitations	Glu Val Val Asp Val Tyr Gly Ser Asn Tyr
1473	Response Exceeds Line Limitations	45 50
1474	Response Exceeds Line Limitations	Tyr Val Asn Cys Tyr Phe Ser Ser Lys Asp
1475	Response Exceeds Line Limitations	55 60
1476	Response Exceeds Line Limitations	Asn Val Gly Lys Val Thr Gly Gly Lys Thr
1477	Response Exceeds Line Limitations	65 70
1478	Response Exceeds Line Limitations	Cys Met Tyr Gly Gly Ile Thr Lys His Glu
1479	Response Exceeds Line Limitations	75 80
1480	Response Exceeds Line Limitations	Gly Asn His Phe Asp Asn Gly Asn Leu
1481	Response Exceeds Line Limitations	85
1494	Response Exceeds Line Limitations	Asn Tyr Asp Lys Val Lys Thr Glu Leu Leu
1495	Response Exceeds Line Limitations	25 30
1496	Response Exceeds Line Limitations	Asn Glu Asp Leu Ala Lys Lys Tyr Lys Asp
1497	Response Exceeds Line Limitations	35 40
1498	Response Exceeds Line Limitations	Glu Val Val Asp Val Tyr Gly Ser Asn Tyr
1499	Response Exceeds Line Limitations	45 50
1500	Response Exceeds Line Limitations	Tyr Val Asn Cys Tyr Phe Ser Ser Lys Asp
1501	Response Exceeds Line Limitations	55 60
1502	Response Exceeds Line Limitations	Asn Val Gly Lys Val Thr Gly Gly Lys Thr
1503	Response Exceeds Line Limitations	65 70
1504	Response Exceeds Line Limitations	Cys Met Tyr Gly Gly Ile Thr Lys His Glu
1505	Response Exceeds Line Limitations	75 80
1506	Response Exceeds Line Limitations	Gly Asn His Phe Asp Asn Gly Asn Leu
1507	Response Exceeds Line Limitations	85
1520	Response Exceeds Line Limitations	Asn Tyr Asp Lys Val Lys Thr Glu Leu Leu
1521	Response Exceeds Line Limitations	25 30
1522	Response Exceeds Line Limitations	Asn Glu Asp Leu Ala Lys Lys Tyr Lys Asp
1523	Response Exceeds Line Limitations	35 40
1524	Response Exceeds Line Limitations	Glu Val Val Asp Val Tyr Gly Ser Asn Tyr
1525	Response Exceeds Line Limitations	45 50
1526	Response Exceeds Line Limitations	Tyr Val Asn Cys Tyr Phe Ser Ser Lys Asp
1527	Response Exceeds Line Limitations	55 60
1528	Response Exceeds Line Limitations	Asn Val Gly Lys Val Thr Gly Gly Lys Thr
1529	Response Exceeds Line Limitations	65 70
1530	Response Exceeds Line Limitations	Cys Met Tyr Gly Gly Ile Thr Lys His Glu
1531	Response Exceeds Line Limitations	75 80
1532	Response Exceeds Line Limitations	Gly Asn His Phe Asp Asn Gly Asn Leu
1533	Response Exceeds Line Limitations	85
1546	Response Exceeds Line Limitations	Lys Leu Lys Thr Glu Leu Lys Asn Gln Glu

SEQUENCE VERIFICATION REPORT
PATENT APPLICATION   *US/08/882,431B*

INPUT SET: S34420.raw

Line	Error	Original Text
1547	Response Exceeds Line Limitations	25 30
1548	Response Exceeds Line Limitations	Met Ala Thr Leu Phe Lys Asp Lys Asn Val
1549	Response Exceeds Line Limitations	35 40
1550	Response Exceeds Line Limitations	Asp Ile Tyr Gly Val Glu Tyr Tyr His Leu
1551	Response Exceeds Line Limitations	45 50
1552	Response Exceeds Line Limitations	Cys Tyr Leu Cys Glu Asn Ala Glu Arg Ser
1553	Response Exceeds Line Limitations	55 60
1554	Response Exceeds Line Limitations	Ala Cys Ile Tyr Gly Gly Val Thr Asn His
1555	Response Exceeds Line Limitations	65 70
1556	Response Exceeds Line Limitations	Glu Gly Asn His Leu Glu Ile Pro Lys
1557	Response Exceeds Line Limitations	75
1570	Response Exceeds Line Limitations	Ile Ile Phe Pro Ser Pro Tyr Tyr Ser Pro
1571	Response Exceeds Line Limitations	25 30
1572	Response Exceeds Line Limitations	Ala Phe Thr Lys Gly Glu Lys Val Asp Leu
1573	Response Exceeds Line Limitations	35 40
1574	Response Exceeds Line Limitations	Asn Thr Lys Arg Thr Lys Lys Ser Gln His
1575	Response Exceeds Line Limitations	45 50
1576	Response Exceeds Line Limitations	Thr Ser Glu Gly Thr Tyr Ile His Phe Gln
1577	Response Exceeds Line Limitations	55 60
1578	Response Exceeds Line Limitations	Ile Ser Gly Val Thr Asn Thr Glu Lys Leu
1579	Response Exceeds Line Limitations	65 70
1580	Response Exceeds Line Limitations	Pro Thr Pro